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Met.O.3 Technical Note No.35.

MORECS climatology. 1961 onwards.

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MET O 3 TECH NOTE

NUMBER 35.

MORECS CLIMATOLOGY

1961 onwards

The whole of the results from the exercise are in a grey box marked

Archive tapes

Morecs

Climatology

in Room 129

1961-1985

The film produced is in this box.
also the 25 years of fiche are in
Fiche boxes in Room 129.

P.Wescott

MET O 3d 24.8.87

Summary

After the completion of the exercise which was to use the latest MORECS model on back years commencing January 1961, operational years from 1986 are added on when completed.

The Exercise produced a vast number of data sets on Mag tapes, which as yet are not accessible by any known programmes although, being GP Accessible, programmes can be written.

Details of the data sets and tapes are to be found in the box referred to on the first page of this tech note.

It was found that two summary data sets produced annually during the exercise were easy to access and contained most of the information that anyone would require. These data sets were MO3.mrxmYYYY and MrxgYYYY produced at the end of each Morecs year (April to March), and contained monthly and weekly summary data respectively.

The vast number of other data sets referred to above will almost certainly only be used for some scientific study. They contain day by day details of numerous items both input and output during the exercise.

The programmes described in this t/n were designed for customers... They work from data sets which are the result of the two data sets (above) becoming 2 long period summary data sets by adding each successive year on the end.

So then we have a data set with monthly values of SMD etc from 1961 onwards. A second data set which used this data set for its calculations has monthly averages, max, min, and st devs, for 9 items (listed later in this T-note)

Also we have a data set with weekly values from 1961 onwards and a data set derived from this with averages etc (for 13 items).

Included in this T/N are:

a. programmes to access these 4 data sets to provide information for paying customers.

b. programmes to add successive years on as they are completed.

c. programmes to re-calculate averages, max, min, SDs every 5 years.

PROGRAMS AND TAPE DATA SETS USED TO PROVIDE CUSTOMERS WITH VARIOUS OUTPUT DERIVED FROM MORECS LONG PERIOD (FROM 1961) DATA

P Wescott
August 1987

The data sets are on mag tape 030175 with backup 030547
The jobs to provide the data are on MØ3.BRANCH.CNTL.
As a new year is added to the tape, it is written to the next empty file

Job on M03.BRANCH.CNTL	DATA SET USED (TAPE)	DETAILS OF OUTPUT FOR CUSTOMER
MRXMON (MRXMTH all squares to Fiche)	M03DWMR7 Latest tape file with that DSN	Monthly values over grass for each year from 1961 for a chosen Morecs square. (9 items as described on page 9) The output is paper (as set up on JCL)
MRXAVS	M03.dwMR9 Latest ... as above	Monthly values over Grass for a period starting 1961 ..... AVERAGES, MAXIMA, MINIMA, STANDARD DEVIATIONS for a chosen grid square, same items as for MRXMON (above).
DWNEWAVS	M03.DWMR9 Latest ... as above	MAPS OF SAME ITEMS AS ABOVE FOR EACH OF 12 months for all 190 squares. Averages only but could be adapted to do max, min, s. d's ..... Run JCL once for each item number 2-10 as described on page 9
DWWARIL1	M03.DWIOP File 1	Graphs of A.E. P.E. S.M.D. Rain (Averaged 1961 to 1985 only) plotted on a monthly basis (Soil moisture budget) for a chosen square
DWWEEK4	M03.DWWEEK4 Latest tape file with that DSN	Weekly values for 13 items as on page 10 for a chosen grid square. 52 weeks per output page, from 1961 to date. These are for Grass and Real Land Use. To make each week within a few days of its counterpart in other years, certain weeks have been omitted from the data set and output. Viz. w/ending 31.12.63, 31.12.68, 31.12.74, 31.12.80, 31.12.85,* 31.12.91, 31.12.96
DWWKCOM	M03.DWWKCOM Latest ... as above	Weekly Averages, Max, Min, S Devs for a chosen grid square for period 1961 to date. Output paper or fiche (as for DWWEEK4 (above))

* If absolutely essential, these missing months can be obtained from tape 030494 file 1 (M03.dwweekly)

More Detailed Description of basic long period
Datasets on Tapes 030175, (B/U 030547)
-V-
These are the 1961 - 1985 datasets

As a change is made, or a year added, the data set is written, same name to a new unused file.

-V-

File	DSN	Description
	MØ3.	Monthly. 1961 - 1985 values as on sheet 9. and Averages, max, min, S Dev.
1	DWIOP	All INT*4 LRECL = 56, BLK = 10584. Only first 40 bytes used in each record (square +9 items) No headings. Record 1 = mth/year. Records 2 - 191 are morecs squares. Used for graphs only. DO NOT UPDATE IT
	MØ3.	Monthly 1961 - 1985. Known as MØ3. DWIOH on line. Same as File 1 but fully commented.
2	DWEX1	For viewing only. Items are INT*5 for easier viewing. DO NOT UPDATE IT
	MØ3.	Monthly 1961 - 1985 (over grass only) Values as on page 9. Record 1 = mnth/yr
3	DWMR7	2 - 191 morecs squares used by JCL's MRXMON, MRXMTH Add each new year when ready
	MØ3.	Monthly 1961 - 1985 (over grass only) Months January - December AVS) Max) Min) St Dev) In that order
4	DWMR9	used by JCLs MRXAVS DWNEWAVS
		Recalculate every 5 years: ie when up to December 1990.
	MØ3,	Weekly 1961 - 1985 (Grass and R L Use) Individual values for 13 items as on page 10.
5	DWWEEK4	All INT*4 LRECL = 56, BLK = 10584 FB used by JCL DWWEEK4 Add each new year (weekly) when ready
	MØ3.	Weekly 1961 - 1985 Weeks 1-52 Averages) Max) Min) S-DEV) in that order
6	DWWKCOM	Used by JCL DWWKCOM
		Recalculate every 5 years ie when up to December 1990

AS THE ABOVE FILES ARE ADDED TO THEY MUST BE WRITTEN TO A NEW FILE (SAME DSN)

ADDING NEW YEARS TO LONG PERIOD DATA SETS

The data sets created operationally by MORECS can be added to the 1961 onwards data sets as soon as they are completed and still on line. They will be added unchanged ie from April to March, except that squares 82,89 are put in as -1

The method is to do a BLIST of tape 030175 using M03.BRANCH.CNTL.(DWBLIST). Find what is the latest file/update of

for monthly update dsn=MOS.DWMR7
for weekly update dsn=M03.DWWEEK4

(The jcl is set up so you can do it prty 8 and view it on 'Q')

Then ISPF 2 M03.BRANCH.CNTL(DWMORUPM)

Says what to do

sub it.

Then ISPF 2 M03.BRANCH.CNTL(DWMORUPW)

Says what to do

sub it.

NETWORK *

Carefully check the blist to ensure files up to the new one are unchanged.

* This will add both the monthly and the weekly data sets to the long period ones and write them back to new files. If everything runs successfully, copy whole of Tape 030175 to B/u Tape 030547 using JCL on m03.BRANCH.CNTL(MRXBACK)

NOTE:

DWMORUPM runs first in the network and then DWMORUPW, so make sure that DWMORUPM writes to the next empty file on 030175 and DWMORUPW writes to the one after it.

Every 5 years (When 1990 or 1995 completed up to end of year) (DEC)

Data sets are on tape 030175 (B/U 030547)

The Averages, Maxima, Minima and Standard Deviations for the long period are recalculated (from 1961 to latest year on tape.

The period will be 30 years by the end of 1990)

M O N T H L Y

Call up JCL MO3.BRANCH.cntl(DWMTHAVS) It says what to do

The Averages etc data set to be updated is MO3.DWMR9.
The JCL actually work from data set MO3.dwmr7 which is added to each year and is the latest file with that name.

Copy the results back to a new file and with name MO3.DWMR9

----------V----------

W E E K L Y

Call up JCL MO3.BRANCH.cntl(DWWEEKAV) It says what to do

The Averages etc data set to be updated is MO3.dwwkcom.
The JCL actually works from data set MO3.DWWEEK4 which is added to each year and is the latest file with that name.

N . B .

As the data set the JCL works from is so huge, the JCL has to run in a network of 5 jobs prty 2 at weekend.

Same JCL but in go .sysin...
weeks 1-10
11-20
21-30
31-40
41-52

Copy back after inspection using ISPF 1 to new file as 'MO3.DWWKCOM'

LASTLY Copy 030175 TO B/U 030547

Data Sets on Tape used by Customer programs

BLIST Tape 030175 20.8.87

Basic 25 year Data Sets

HDR1M03.DWIJ[illegible]	03017500010001		87205	000000000000IBM
HDR2F105840005640T03DWIEF/		B	80426	
HDR1M03.DWEX1	03017500010002		87205	000000000000IBM
HDR2F105840005640T03DWIEF/		B	80426	
HDR1M03.DWMR7	03017500010003		87205	000000000000IBM
HDR2F105840005640T03DWIEF/		B	80426	
HDR1M03.DWMR9	03017500010004		87208	000000000000IBM
HDR2F105840005640T03DWIEF/		B	88233	
HDR1M03.DWWEEK4	03017500010005		87208	000000000000IBM
HDR2F105840005640T03DWIEF/		B	88233	
HDR1M03.DWWKCOM	03017500010006		87208	000000000000IBM
HDR2F105840005640T03DWIEF/		B	88233	

Updated Latest versions

HDR1M03.DWWEEK4	03017500010007		87217	000000000000IBM
HDR2F105840005640T03DWIEF/		B	88233	
HDR1M03.DWMR7	03017500010008		87219	000000000000IBM
HDR2F105840005640T03DWIEJ/		B	80428	
HDR1M03.DWWEEK4	03017500010009		87219	000000000000IBM
HDR2F105840005640T03DWIEY/		B	80426	
HDR1M03.DWMR7	03017500010010		87220	000000000000IBM
HDR2F105840005640T03DWIEJ/		B	86514	
HDR1M03.DWWEEK4	03017500010011		87220	000000000000IBM
HDR2F105840005640T03DWIEK/		B	80428	

A L W A Y S U S E LATEST
DSN/FILE with required DSN

File 7 = 1961-85 weekly with w/e 31.12.85 deleted
in addition to the 4 other weeks mentioned earlier

File 8 = 1961-March 1986 monthly (updated version of file 3)

File 9 = " " " weekly (" " " " 7)

File 10 = 1961-March 1987 monthly(updated version of file 8)

File 11 = " " " weekly (" " " " 9)

Files 1 to 6 were the longperiod data sets created at the finish of the 1961 - 1985(DEC) exercise.

Files 7 onwards are updated versions.

So Always make sure you are running Customer's programs from the latest relevant file.The DSN'S stay the same for every update of a particular data set ,but the file on the tape is always the latest.

The idea of keeping the old files even when they have been updated is that in the event of the latest one being lost, the previous one can be updated by adding the appropriate year again

B List Tape 030547 (8)

```
HDR1M03.DWIOP          03054700010001          87222 000000000000IBM
HDR2F105840005640T03DWIEG/COPY                 88231
HDR1M03.DWEX1          03054700010002          87222 000000000000IBM
HDR2F105840005640T03DWIEG/COPY          B      88231
HDR1M03.DWMR7          03054700010003          87222 000000000000IBM
HDR2F105840005640T03DWIEG/COPY          B      88231
HDR1M03.DWMR9          03054700010004          87222 000000000000IBM
HDR2F105840005640T03DWIEG/COPY          B      88231
HDR1M03.DWWEEK4        03054700010005          87222 000000000000IBM
HDR2F105840005640T03DWIEG/COPY          B      88231
HDR1M03.DWWKCOM        03054700010006          87222 000000000000IBM
HDR2F105840005640T03DWIEG/COPY          B      88231
HDR1M03.DWWEEK4        03054700010007          87222 000000000000IBM
HDR2F105840005640T03DWIEG/COPY          B      88231
HDR1M03.DWMR7          03054700010008          87222 000000000000IBM
HDR2F105840005640T03DWIEG/COPY          B      88231
HDR1M03.DWWEEK4        03054700010009          87222 000000000000IBM
HDR2F105840005640T03DWIEG/COPY          B      88231
HDR1M03.DWMR7          03054700010010          87222 000000000000IBM
HDR2F105840005640T03DWIEG/COPY          B      88231
HDR1M03.DWWEEK4        03054700010011          87222 000000000000IBM
HDR2F105840005640T03DWIEG/COPY          B      88231
```

B/U TO 030175

MORECS ANNUAL D.SET (SEQTL) WITH MONTHLY DATA

MED. AWC Soil over grass only

```
EDIT --- M03.MRXM6869 ------------------------------------------------------ COLUMNS 00
COMMAND ===>                                                                  SCROLL ===
****** ***************************** TOP OF DATA ***************************
000001      4 1968  -1  -1  -1  -1  -1  -1  -1  -1
000002 SQ.  1 435 435 103 412 7451442  56  813496
000003      2 445 444 115 369 6971447  58  823541
000004      3 438 437 113 248 5731455  58  823310
000005      4 437 432 203 242 4741735  62  852724
000006      5 427 424 230 220 4131684  62  862698
000007      6 462 459 219 307 5461553  65  842978
000008      7 427 427 104 593 9161507  58  812781
000009      8 431 430 112 351 6711403  54  802832
000010      9 411 411 106 370 6771385  53  802837
000011     10 456 456 164 254 5431768  58  832869
000012     11 451 447 212 217 4521585  62  842943
000013     12 439 436 154 438 7211539  61  822568
000014     13 444 444 132 542 8571480  56  782544
000015     14 495 493 175 248 5641534  60  782676
000016     15 528 524 185 129 4751902  69  853436
000017     16 490 486 152 155 4911706  65  842967
000018     17 461 459 172 218 5051640  58  812788
000019     18 442 440 164 554 8291527  58  802313
000020     19 505 503 204 360 6561454  57  732489
000021     20 521 514 282 201 4361598  66  772581
000022     21 545 542 191 227 5901546  64  772721
000023     22 506 505 141 238 6191460  61  772534
000024     23 519 517 135 209 6481536  61  772411
000025     24 533 529 179 101 4491923  69  853421
000026     25 503 502  62 137 5761730  66  843406
000027     26 492 491  71 214 6341644  62  822884
000028     27 501 499 114 429 8141515  55  762589
000029     28 504 498 283 296 5131557  56  732489
```

month

16 empty bytes in each record
LRECL = 56 bytes
BLK = 10584
F.B.

quare 189

- Daily mean wind for month MILES/DAY x10
- Daily mean V.P. for month x10
- " " Temp " " °C x10
- month's Sun HRS x10
- RAIN for month mm x10
- Monthly TOTAL EP x10 mm
- End of month SMD x10 mm (medium AWC Soil ∴ Grass)
- Monthly TOTAL AE x10 mm
- Monthly TOTAL PE x10 mm

P. WESCOTT
OCT. 85

MORECS ANNUAL D.SET (SEQTL)
WITH WEEKLY DATA
Grass + R.L use

EDIT --- M03.MRXG6869 ---------- COLUMNS 001
COMMAND ===> SCROLL ===>

Week ending 2/4/68

TOP OF DATA

000001	2	4	68	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
000002 SQ. →	1	76	76	0	464	72	72	0	468	540	141	36	734560	
000003	2	77	77	0	482	71	71	0	488	559	129	37	734620	
000004	3	89	89	0	231	82	82	0	239	321	186	38	724410	
000005	4	77	77	0	372	74	74	0	375	449	256	36	743620	
000006	5	77	77	0	303	74	74	0	306	380	246	36	743680	
000007	6	82	82	0	502	79	79	0	505	584	93	35	704790	
000008	7	82	82	0	681	78	78	0	685	763	140	28	674610	
000009	8	85	85	0	323	82	82	0	326	408	169	31	694150	
000010	9	84	84	0	198	80	80	0	202	282	212	35	703710	
000011	10	72	72	0	541	68	68	0	545	613	234	32	723680	
000012	11	76	76	0	449	71	71	0	454	525	185	35	724030	F.B.
000013	12	74	74	0	739	71	71	0	742	813	87	31	693900	Lreel = 56
000014	13	79	79	0	606	75	75	0	610	685	135	27	683960	Blk = 10584 hyw
000015	14	87	87	0	223	83	83	0	227	310	212	36	703920	
000016	15	90	90	0	247	84	84	0	254	337	265	47	744070	
000017	16	79	79	0	538	78	78	0	539	617	218	40	733610	
000018	17	65	65	0	746	63	63	0	748	811	177	27	703530	
000019	18	68	68	0	1305	65	65	0	1308	1373	164	23	693110	
000020	19	72	72	0	502	69	69	0	505	574	177	26	683610	
000021	20	88	88	0	100	79	79	0	114	219	241	43	723740	
000022	21	91	91	0	99	80	80	0	117	235	218	42	723940	
000023	22	95	95	0	37	82	82	0	56	170	202	48	713480	
000024	23	110	110	5	0	97	97	3	19	150	216	53	713180	
000025	24	94	94	0	285	91	91	0	288	379	249	47	754180	
000026	25	82	82	0	456	78	78	0	460	538	212	41	744280	
000027	26	69	69	0	683	65	65	0	687	752	191	32	733710	
000028	27	67	67	0	976	64	64	0	979	1043	163	20	693600	
000029	28	68	68	0	436	68	68	0	437	504	147	24	683610	

Square 189

Latest 7 day 10m wind mean MILES/Day

Latest 7 day V.P mean mb x 10

Latest 7 day mean Temp °C x 10

TOTAL sun for week (hrs x 10

TOTAL RAIN FOR WEEK (mm x 10)

E.P. (Real Land Use) mm x 10 for WEEK

End of WEEK SMD (R.L.U.) mm x 10

A.E. (R.L. use) mm x 10 for WEEK

P.E (R.L.U) mm x 10 for WEEK

E.P (grass) mm x 10 for WEEK

End of WEEK SMD (grass) mm x 10

A.E (grass) mm x 10 for WEEK

P.E (grass) mm x 10 for WEEK